**3.5 – Identifying Chemical Reactions – Lab Activity**

Station 1 – Bottle of Doom

* Observe the demonstration from Mr. Olfert, and complete the following:

1. Record your observations.
2. What type of reaction is taking place?
3. Write the chemical equation for the reaction. Predict the products, and balance the equation.
4. Is the reaction endothermic or exothermic? Rewrite the equation, and represent heat on the appropriate side of the equation.
5. Why do you think the bottle itself did not burn?

Station 2 – An eggxtraordinary eggxperiment

* Observe the demonstration from Mr. Olfert, and complete the following:

1. Record your observations.
2. What type of reaction is taking place?
3. Write the chemical equation for the reaction. Predict the products, and balance the equation.
4. Is the reaction endothermic or exothermic? Rewrite the equation, and represent heat on the appropriate side of the equation.
5. What do you think would happen if we tried the same experiment, but instead of using zinc, we used solid nickel? What would happen if we used solid copper? Why?

Station 3 – A certain kind of toothpaste…

* Observe the demonstration from Mr. Olfert, and complete the following:

1. Record your observations.
2. What type of reaction is taking place?
3. Write the chemical equation for the reaction. Predict the products, and balance the equation.
4. Is the reaction endothermic or exothermic? Rewrite the equation, and represent heat on the appropriate side of the equation.
5. What do you think would have happened if there was no dish soap used in the cylinder?

Station 4 – Baking soda and Vinegar…a classic

* Measure out approximately 15 mL of vinegar into a beaker. Record the mass of the beaker and vinegar.
* Measure out 2 grams of baking soda. Add the baking soda to the beaker with the vinegar.
* When the reaction is finished, record the mass of the beaker with the vinegar.

1. Record your observations.
2. What type of reaction is taking place?
3. Write the chemical equation for the reaction. Predict the products, and balance the equation.
4. Is the reaction endothermic or exothermic? Rewrite the equation, and represent heat on the appropriate side of the equation.
5. What were the initial and final masses of the beaker with vinegar (before and after the reaction)? Using the law of conservation of mass, explain your results.

Station 5 – Lead (II) nitrate, potassium iodide

* Put about 2 cm of each compound into its own test tube. Pour the contents of one test tube into the other.

1. Record your observations.
2. What type of reaction is taking place?
3. Write the chemical equation for the reaction. Predict the products, and balance the equation.
4. Write the total ionic equation, and the net ionic equation for the reaction.
5. The precipitate observed in this experiment was once used as a pigment in paint. Why do you think it is no longer used?

Station 6 – Magnesium and oxygen

* Collect a piece of magnesium ribbon. Using the tweezers, hold the magnesium in the Bunsen burner flame.

1. Record your observations.
2. What type of reaction is taking place?
3. Write the chemical equation for the reaction. Predict the products, and balance the equation.
4. Is the reaction endothermic or exothermic? Rewrite the equation, and represent heat on the appropriate side of the equation.
5. Compare your results from question 4 to those of another group, and discuss them. Were they the same? Explain.